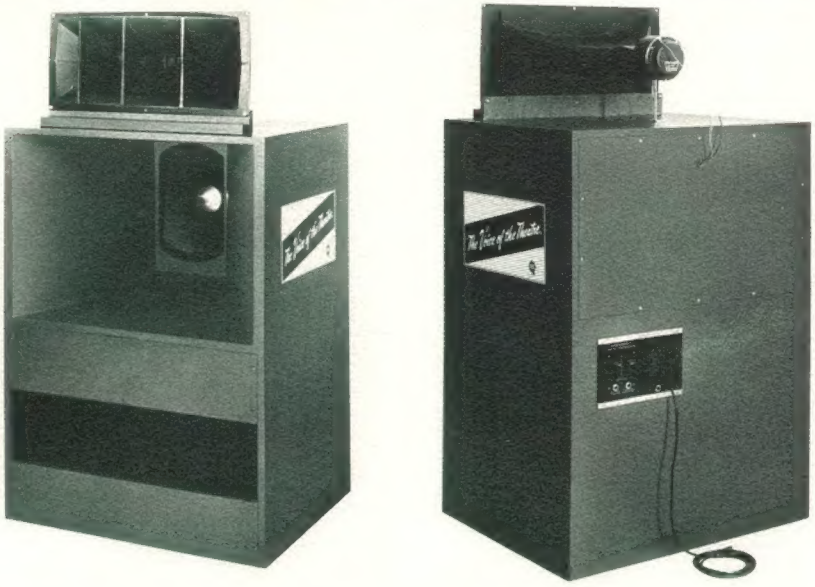
1209B Powered Speaker System

1209B



ALTEC has combined the 771B Electronic Crossover Biamplifier with the 1208B Nonpowered Speaker System to provide ALTEC's 1209B Powered Speaker System — a superb speaker system to make your happening happen — one that projects sound to the farthest listener.

Horns control wide-angle distribution of up to 90 watts of continuous program material for the entire audio spectrum. Since all frequencies are reproduced by horns, off-axis frequency response is almost identical to on-axis response. Listeners in side and rear seats hear the same natural sound as those in front-row-center seats.

All components of the 1209B system are carefully matched:

421A Low-Frequency Musical Instrument Loudspeaker . . . 15" woofer for high efficiency in reproducing bass and mid-bass sounds. 3" edge-wound aluminum ribbon voice coil, rigid cast aluminum frame, 17½ pound magnet assembly.

511B High-Frequency Sectoral Horn . . . massive, cast aluminum, 25" wide. Operates from 500 Hz to beyond audibility.

808-8A High-Frequency Driver . . . has an extremely rugged voice coil and diaphragm assembly that handles much more power than conventional drivers. Smooth response from 500 to 20,000 Hz.

771B Electronic Crossover Biamplifier . . . two separate power amplifiers that faithfully reproduce all frequencies . . . a 60-watt power amplifier for low frequencies from 35 to 500 Hz and a 30-watt power amplifier for mid and high frequencies from 500 to 20,000 Hz.

828B Low-Frequency Horn . . . sturdy ¾" plywood front-loaded exponential horn provides excellent bass and mid-bass reproduction and controlled sound projection.

The 1209B components are shipped separately, in kit form, ready to assemble. All that is needed is a screwdriver — and 30 minutes. Assemble it with the sectoral horn on top or inside the cabinet . . . it sounds great either way.

Detailed specifications and descriptions of 1209B system components can be obtained from their respective ALTEC catalog sheets and brochures.

ALTEC®
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1209B SPECIFICATIONS

Type:	Biamplified powered speaker system with wide-angle coverage
Power Output —	
Bass Amplifier:	60 watts
Treble Amplifier:	30 watts
Power Requirements:	120V, 50/60 Hz — 17W at zero signal 90W at 30W output 135W at 90W output
Input Sensitivity (for Rated Output with Full Boost):	0.5V rms direct 0.5V rms with 15335 Line Matching Transformer (high-level balanced-line matched input) 0.1V rms with 15095A Line Bridging Transformer (high-level balanced-line bridging input)
Pressure Sensitivity:	103 dB SPL measured at 4′ on axis with 1 watt input of pink noise from 100 Hz to 10 kHz (Ref.: 0.0002 dyne/cm^2). Equal to EIA rating of 56 dB SPL measured at 30′ on axis with 1 milliwatt input.
Acoustic Output at Maximum Gain Settings —	
Direct Input (No Transformer):	118.0 dB SPL measured at 4′ on axis with 0.5V rms input of pink noise from 500 Hz to 3000 Hz (Ref.: 0.0002 dyne/cm^2)
High-Level Balanced-Line Matched Input (15335 Transformer):	118.0 dB SPL measured at 4′ on axis with 0.5V rms input of pink noise from 500 Hz to 3000 Hz (Ref.: 0.0002 dyne/cm^2)
High-Level Balanced-Line Bridging Input (15095A Transformer):	118.0 dB SPL measured at 4′ on axis with 0.1V rms input of pink noise from 500 Hz to 3000 Hz (Ref.: 0.0002 dyne/cm^2)
Input Impedance:	15,000 ohms direct 15,000 ohms with 15335 transformer 600 ohms with 15095A transformer
Frequency Response:	35 Hz to 20 kHz, normalized composite output (see Figure 1)
Crossover Frequency:	500 Hz with 12 dB/octave slope
Input Connections:	2 standard ¼″ diameter phone jacks, paralleled — or — Barrier-type terminal board for 600-ohm applications (requires transformer accessory module to be installed in biamplifier)
Distribution Pattern:	90° horizontal x 40° vertical
Components:	1 ALTEC 421A Low-Frequency Musical Instrument Loudspeaker 1 ALTEC 511B High-Frequency Sectoral Horn 1 ALTEC 808-8A High-Frequency Driver 1 ALTEC 771B Electronic Crossover Biamplifier 1 ALTEC 828B Low-Frequency Horn 1 ALTEC 50′, 2-conductor cable with standard ¼″ diameter phone plug on each end
Dimensions —	
HF Horn Externally Mounted:	54¼″ H x 30″ W x 24″ D (137.80 cm H x 76.20 cm W x 60.96 cm D)
HF Horn Internally Moutned:	42″ H x 30″ W x 24″ D (106.68 cm H x 76.20 cm W x 60.96 cm D)
Finish:	Theatre gray enamel
Weight:	180 pounds (81.50 kg)

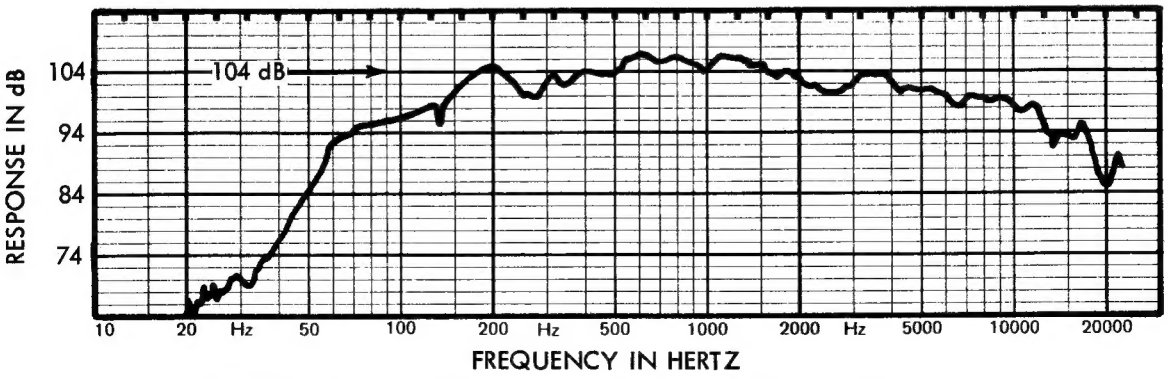

Figure 1. Frequency Response Measured at 4′ on Axis with 1 Watt Input

BIAMPLIFIER SPECIFICATIONS

Type:	Biamplifier with electronic crossover
Gain (with Full Boost) —	
Bass Amplifier:	52 dB with 15335 Line Matching Transformer 66 dB with 15095A Line Bridging Transformer
Treble Amplifier:	49 dB with 15335 Line Matching Transformer 63 dB with 15095A Line Bridging Transformer
Input Sensitivity (for Rated Output with Full Boost:	0.5V rms direct 0.5V rms with 15335 Line Matching Transformer (high-level balanced-line matched input) 0.1V rms with 15095A Line Bridging Transformer (high-level balanced-line bridging input)
Power Output —	
Bass Amplifier:	60 watts at less than 0.5% THD
Treble Amplifier:	30 watts at less than 0.5% THD
Total Harmonic Distortion (THD):	Less than 0.5% at rated power, 20 Hz to 20 kHz
IM Distortion:	Unmeasurable by normal IHF method
Crossover Frequency:	500, 800 or 1500 Hz with 12 dB/octave slope
Frequency Response:	±1 dB from 20 Hz to 20 kHz (normalized composite output)
Input Impedance:	15,000 ohms direct 600 ohms with 15095A transformer 15,000 ohms with 15335 transformer
Load Impedance:	8 ohms nominal for each amplifier
Damping Factor:	25
Noise Level:	80 dB below rated output
Controls:	1 BASS GAIN CONTROL, continuously variable, +6 dB to -15 dB 1 TREBLE GAIN CONTROL, continuously variable, +6 dB to -15 dB 1 ELECTRONIC CROSSOVER FREQUENCY switch, 500/800/1500 Hz. Use 500 Hz for 1209B. 1 POWER switch 1 PRESS TO RESET pushbutton (circuit breaker) (771B only) 1 VOLTAGE SELECT switch (771BX only)
Power Requirements:	120V ac, 50/60 Hz — 17W at zero signal 90W at 30W output 135W at 90W output
Dimensions —	
Overall:	6-1/2" H x 9-7/8" W x 9" D (16.51 cm H x 25.08 cm W x 22.86 cm D)
Panel Cutout:	5-1/2" H x 9-1/2" W (13.97 cm H x 24.13 cm W)
Weight:	16 pounds (7.26 kg)
Color:	Black
Optional Accessories:	ALTEC 15095A Line Bridging Transformer ALTEC 15335 Line Matching Transformer

NOTE

ACCESSORIES MUST BE ORDERED SEPARATELY.

ARCHITECT'S AND ENGINEER'S SPECIFICATIONS

The powered speaker system shall be the biamplified sound reinforcement type with a sturdy ¾" plywood front-loaded LF exponential horn, a self-contained electronic crossover biamplifier, a 15" musical instrument type LF loudspeaker, an HF driver and a cast aluminum 25" sectoral HF horn having exponential expansion. A 50', 2-conductor cable with standard ¼" phone plug at each end shall be included with the system.

The biamplifier shall contain a power supply capable of operating from a 120V ac, 50/60 Hz line, electronic crossover circuitry, separate LF and HF power amplifiers and fail-safe protective circuitry for its output transistors. All circuitry in the biamplifier shall be solid state, with all transistors and diodes of the silicon type. The biamplifier shall meet the following performance criteria. Amplifier outputs; 60 watts bass, 30 watts treble. THD at full rated output, less than 0.5% at all frequencies from 20 Hz to 20 kHz. Input sensitivity for rated output; 0.5V rms direct or with line-matching transformer accessory, 0.1V rms with line-bridging transformer accessory. Input impedance; 15,000 ohms direct or with line-matching transformer accessory, 600 ohms with line-bridging transformer accessory. Load impedance, 8 ohms nominal for each amplifier. Bass amplifier gain with full boost; 52 dB with line-matching transformer accessory, 66 dB with line-bridging transformer accessory. Treble amplifier gain with full boost; 49 dB with line matching transformer accessory, 63 dB with line-bridging transformer accessory. Crossover frequency; 500, 800 or 1500 Hz (selectable) with 12 dB/octave crossover slope. Each channel shall have a separate slide-type gain control, continuously variable from +6 dB to −15 dB.

The speaker system shall meet the following performance criteria. Frequency response, 35 Hz to 20 kHz (normalized composite output). Pressure sensitivity, 103 dB SPL when measured at 4' on axis with 1 watt input of pink noise from 100 Hz to 10 kHz (Ref.: 0.0002 dyne/cm^2). Equivalent EIA rating, 56 dB SPL when measured at 30' on axis with 1 milliwatt input. Acoustic output for rated power at maximum gain settings — with direct input or high-level, balanced-line matched input; 118.0 dB SPL when measured at 4' on axis with 0.5V rms input of pink noise from 500 Hz to 3000 Hz (Ref.: 0.0002 dyne/cm^2); with high-level, balanced-line bridging input; 118.0 dB SPL when measured at 4' on axis with 0.1V rms input of pink noise from 500 Hz to 3000 Hz (Ref.: 0.0002 dyne/cm^2). Crossover frequency, 500 Hz with 12 dB/octave crossover slope. Horizontal distribution pattern, uniform over 90°. Vertical distribution pattern, uniform over 40°. Dimensions; 54¼" H x 30" W x 24" D (HF horn externally mounted), 42" H x 30" W x 24" D (HF horn internally mounted). The speaker system shall be finished in medium gray enamel and shall weigh 180 pounds.

The speaker system shall be the ALTEC Model 1209B.

The 1209B shall be furnished with the following ALTEC accessories (select as required and insert quantity):

_____15095A Line Bridging Transformer _____15335 Line Matching Transformer

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